City of Wenatchee

Volume II
September 2006

WATER RESOURCES REVIEW

The mission of the City of Wenatchee government is to provide the services and facilities essential to protect and enhance the quality of peoples' lives, through wise planning and efficient use of resources.

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Water Resources Division
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INSIDE THIS ISSUE:

2005 City Utility Financial Facts

- $7,077,591 water/sewer revenue
- $955,761 debt service
- $3.5 million capital improvements

UTILITY FINANCING & CAPITAL IMPROVEMENTS

Every day, every person in the City uses one or more of these. They are an essential part of our every day life and YOU pay for them. These are the public utilities of the City which include the water, sewer, and storm drain systems.

The City manages four utilities; the Regional water supply, water distribution, sewer collection, and storm drain systems. Of these, the Regional Supply is owned equally by three members: the City of Wenatchee, East Wenatchee Water District, and the Chelan County PUD Water System. The City manages and operates the Regional facility, and each member purchases water from the Regional Supply at a rate of $382 per million gallons.

The City spends over $640,000 annually for the purchase of 1.7 billion gallons of water from the Regional Water System.

The water distribution, sewer collection and storm systems are all owned and operated solely by the City. The water and sewer utilities are managed as a combined utility which increases their financial stability. Municipalities often borrow money by selling bonds. The financial health of the City is a major factor in determining the interest rate for repaying the bonds. Currently, the City has a very good Standard & Poor's bond rating of "A" resulting in a low interest rate.

Beginning in July each year city staff prepare an annual budget proposal. The first draft proposal is reviewed by Council members and the Mayor at a council meeting in early fall. The final budget is adopted before the end of the year.

The City accounts for their utilities as a separate enterprise fund. This means we operate the utilities much like a private business. However, for the City there are regulations governing financing and cost-recovery options that are different from private business. A municipality cannot simply set utility rates as high as it would like without defensible justification for those rates, and it cannot raise rates to supplement other departments that are funded from tax-generated revenue sources.

Utility rates are developed on a "cost of service" basis. This means that we charge the customer fees based on the cost of operations, maintenance, and replacement. In reality

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Construction at the City Wastewater Treatment Plant, 201 N Worthen Street.

WASTEWATER TREATMENT PLANT OPERATION

Have you ever wondered where all that water goes as it swirls into the drain or when you take a shower or flush the toilet? If you have, then give yourself a little gold star because having knowledge of how wastewater is managed by your utility can save you money and help your utility operate and manage the facility more effectively.

The final destination for all the wastewater from homes and businesses within the City limits and the Olds Station area is the Columbia River. Of course this is AFTER the wastewater is treated at the Wastewater Treatment Plant to meet stringent water quality standards. Basically, there are three types of wastewater treatment. "Primary treatment", is a simple settling process, "secondary treatment", utilizes bacteria, and "tertiary treatment", applies filtering methods. The final step is disinfection which until recently was achieved through chlorination. Now ultra violet (UV) lights are the industry standard for disinfection of effluent.

The first primary wastewater treatment plant was built in 1954 smack in the middle of what was then the City's operating landfill. After four major upgrades totaling in excess of $23 million, a modern

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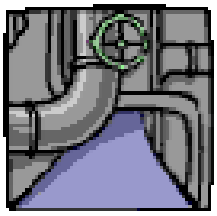
CAPITAL CONTINUED...



the allocation of the cost of service varies among customers because the demands put on the system are different. Commercial and industrial customers impose a higher demand on the utility than a residential user, so those customers are billed at a higher rate.

Capital projects are the most visible investments made by your utility. That is because we block off streets, backup traffic, interrupt your services and generally make a mess while we replace or build new infrastructure. We apologize for the inconvenience and hope you understand that it is a necessary evil to keep your utility healthy. Some of the most recent projects have been:

Wastewater Treatment Plant Improvements: A two year long, $7.3 million construction project completed December of 2005. (Please see the Wastewater article on Page 1 for more details).

Automated Meter Reading System: The City's water maintenance crew has nearly completed installation of a $1.6 million automated meter reading (AMR) system a year ahead of schedule. AMR systems are the most current technology in meter reading today. The AMR speeds the meter reading task from several weeks to just a few days eliminating manual reading errors. Efficiency is further enhanced by electronic transfer of the readings to the billing system. The City and the East Wenatchee Water District have both installed identical AMR systems and are able to support each other with equipment and personnel.

Water Main Improvements: Nearly every year the City replaces or installs new water mains. Usually the replacements are due to age, pipe materials that are failing, or because the main line needs enlargement to provide sufficient flow capacity for fire protection. Over the last several years over 85,000 feet of main line have been replaced.

This picture shows the City water crew "hot tapping" (meaning they are installing a new service while the water main remains under pressure). This is a new 8 inch line being drilled into a 16 inch water main.

1.1 billion gallons of wastewater are treated at the City of Wenatchee WWTP each year .

This amounts to the water needed to fill 1,667 Olympic size swimming pools.

WASTEWATER CONTINUED...

secondary treatment facility now provides exceptional treatment of over 1.1 billion gallons of wastewater annually and removes more than 95% of pollutants before being discharged to the Columbia River.

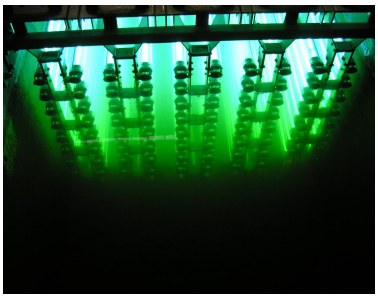
Part of the secondary treatment process, this clarifier serves as a tank for solids to settle. The building (background left) is the new UV disinfection building.

The first plant upgrade from primary to secondary treatment occurred in 1972 and came with a price tag of approximately $3.5 million. Driven by the Clean Water Act many treatment plants across the US were upgraded. Then again in the late 70s to improve plant efficiency the City upgraded the secondary treatment to the tune of $1.5 million.

In the 1990s, the plant was upgraded for a cost of $10.7 million to more efficiently handle the sludge or solids portion of the wastewater. Ah, we know what you're thinking, but solids are generated mainly from bacterial growth creating a sludge that is nearly 80% bacteria by weight. At this point in the treatment process the sludge is termed "biosolids". Yes, we are trying to "dress it up" but in reality the end product is substantially different from the untreated solids and a new term was needed to change the stigma associated with the term "sludge".

The city recycles 100% of the 900 tons of "exceptional quality class A" biosolids generated annually.

In 2004 the rehabilitation cycle for the treatment plant biological system came full circle after 30 years of use. The need to upgrade the plant was apparent by operational difficulties and new regulations restricting the use of chlorine as a disinfectant. This most recent project rings in at $7.3 million and renovated the secondary treatment system, computer monitoring, nutrient addition and state-of-the-art UV disinfection system. Of the total cost, the UV system accounts for almost half at $3.5 million.



Submerged underwater, this is one of three banks of UV Lights used in the final stage of treatment to disinfect the water before it is discharged to the Columbia River.

As you can see a wastewater treatment facility is one of the city's most expensive and sophisticated facilities to build operate and maintain. It is essentially a large bacteria farm that uses the hungry little critters to eat and stabilize pollutants. So remember, whatever you put down your drain impacts this facility and our ability to recycle the biosolids. It does not take much of the wrong thing to cause serious problems and cost you, the rate payer, more on your utility bill.

More BS

(Biosolids that is)

- Exceptional Quality Class A Biosolids are a product of the highest level of treatment.
- Class A provides more economical options for reuse of biosolids.

AUTOMOTIVE & HOUSEHOLD WASTE

We all have it, lurking under the kitchen sink, in the garage and in the shed outback. The question is what to do with it. We might think of it as oven cleaners, spot removers, pool chemicals, pesticides, paint, solvents or motor oil. Household products make the transition to hazardous waste when they are old, not needed anymore or if they have become contaminated.

Many household products can cause problems in the sewer system. Household products that can not be treated at the treatment plant, that kill the microorganisms at the treatment plant or are harmful to the collection system (the pipes that transport the waste from your house to the treatment plant) are prohibited from being poured down the drain.

None of these products should ever be poured into a storm drain. Storm drains are for rain and snowmelt runoff only. The storm drain system does not receive any treatment to remove pollutants before it drains into the Columbia River. Dumping used motor oil down a storm drain has the same effect as emptying the container directly into the river. Neither is an acceptable means of disposal!

Small Amounts Add Up

Small amounts of hazardous waste can add up to be a big problem. We have 8290 residential sewer connections. If each of those customers, thinking that a little bit couldn't hurt, poured a half a quart of motor oil down the drain the treatment plant would end up receiving 1036 gallons of motor oil!

Reducing The Problem

One way to reduce the problem of household hazardous waste is to only buy the amount that you need. If you do end up with more than needed for a project, return any unopened containers. This will save you money and the trouble of having to dispose of them later.

Household Hazardous Waste

- Motor oil
- Brake fluid
- Gasoline
- Auto flushes
- Solvents
- Paints
- Thinners
- Deck cleaners
- Charcoal fluid
- Spot removers
- Glues
- Cements
- Polishes
- Waxes
- Oven cleaners
- Drain cleaners
- Pool chemicals
- Pesticides
- Herbicides

HAZARDOUS WASTE DISPOSAL INFORMATION

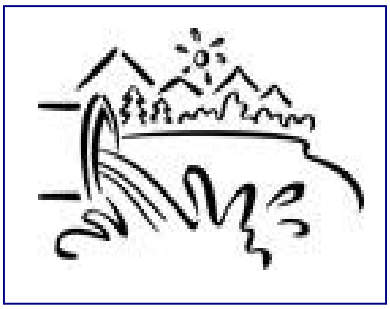
Chelan County Hazardous Waste Collection

It happens every year on the first Saturday in October, this year it is scheduled for October 7, 2006. The closest site is at 210 Easy Street in Wenatchee and the hours will be from 8 am – 3 pm.

It is free! There are no fees collected from the public. A $3.00 donation would be appreciated to help with some of the costs of the event. For more information on what will be accepted, call the Chelan County Main Office at 667-6415 or go to their web site. www.co.chelan.wa.us/pw/pw_solid_waste.htm

1-800-RECYCLE

The Washington State Department of Ecology has a toll-free recycling hotline. (1-800-732-9253) They will be able to tell you which local businesses will take household waste all year long, especially automotive fluids.



They also have a website: http://1800recycle.wa.gov

WINTERIZING LANDSCAPE IRRIGATION SYSTEMS

One of the more common fall projects is winterizing outside water uses such as outside hose connections and landscape irrigation systems. For plumbing not intended for use during periods of freezing temperatures, these winter preparations help prevent costly frost damage. Winterization is done one of two ways; by simply opening drain valves at the lowest point of the plumbing system which permits the water to gradually drain, or by using compressed air to displace the water by forcing high velocity air through the plumbing leaving the system virtually dry.

Often we only discover that a poor job of winterizing has been done when the system is started in the spring. The easiest way to prepare a landscape irrigation system for winter is to contract with a local licensed landscape company providing a winterization services. The contractor will usually drain the outdoor plumbing for a fee. In addition, in the spring, they will return and repressurize the system and make any necessary repairs that may be required. Alternately, homeowners may take on the chore of winterizing the system themselves. This option may perhaps save time and money. However, if not done correctly, frost damage may occur or the potable drinking water system may become contaminated. For example, high air pressure will help remove any remaining water in landscape irrigating systems, but if not correctly connected the compressed air can force non-potable water and air backwards into the drinking water supply.

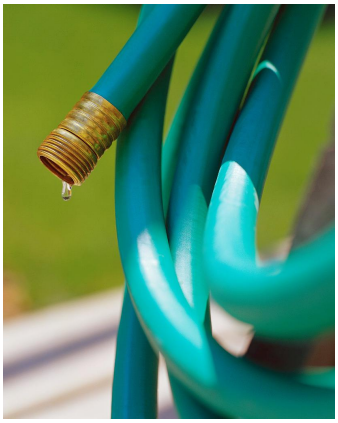
Landscape irrigation systems connected in any fashion to the domestic water supply should have a mechanical device called a backflow prevention assembly. These assemblies are installed to prevent the backwards flow of water or air into the drinking water system. Unfortunately, most of the winterization connections are incorrectly plumbed before the backflow assembly rendering them useless for preventing air and irrigation water from entering into the drinking water system. Damage may occur to backflow prevention assemblies by forcing large quantities of air through them. For these reasons, it is very important that the licensed landscape company or homeowner connect to the winterization point downstream of the backflow prevention assemblies. If your system does not have the winterization point located downstream of the backflow prevention assembly, a minor modification to your system may be needed in order to properly connect and drain your landscape irrigation system.

Please contact Brian McDaniel at 664-5982 for a standard detail drawing of the correct plumbing arrangement for the backflow assembly and winterization connection.

For more information on winterizing a landscape irrigation system, contact your local irrigation supplier for the proper methods to prevent damage to your system and prevent a contamination of the public water supply.

Protecting City Water from Contamination

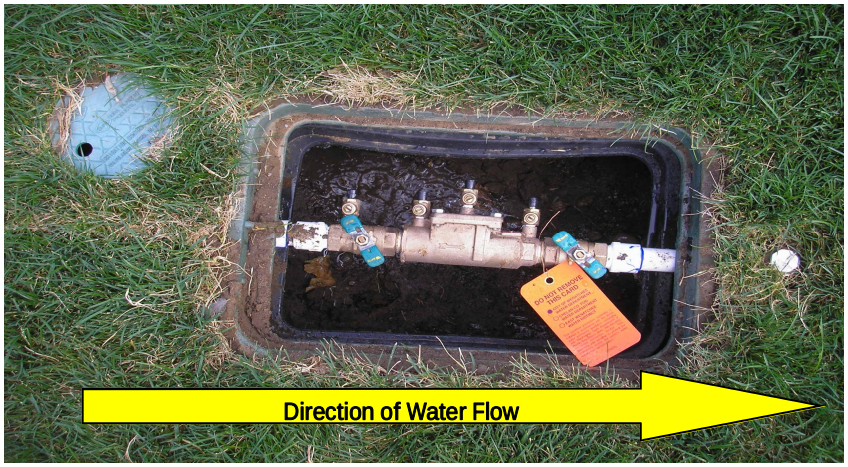
- **Chlorine addition protects against possible bacterial contamination.**
- **The City conducts daily monitoring at the source and in the water system.**
- **Annually, over 950 backflow assemblies are inspected and tested in the City.**



October 2005, in the Spokane Valley, about 4,000 people in 1,300 homes and businesses were ordered to boil their drinking water due to E.coli contamination which is generally found in animal or human feces. State health representatives believe the source of contamination was caused from winterization of a landscape irrigation system without proper backflow protection.

Source: http://seattlepi.nwsource.com/local/243015_water01.html

Proper backflow assembly installation with a winterization point downstream of the backflow prevention assembly.



Ball valves left in the full open or full closed position will trap water and cause them to freeze and break. On backflow assemblies, the shutoff valves and testing ports are both ball valves. These types of valves must be turned at a 45° angle to prevent them from breaking.

City of Wenatchee

Mayor
Dennis Johnson

City Council
Carolyn Case
Christy Filby
Don Gurnard
Mark Kulaas
Frank Kuntz
Craig Larsen
Doug Miller

City Council Meetings
2nd & 4th Thursday
5:15 PM at City Hall
129 South Chelan Ave

For more information please contact the Vicki Reister, City Clerk at 664-3304.

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About this publication and the Water Resources Division…

The Water Resources Division of Public Works is comprised of administrative staff and three crews that operate the wastewater treatment plant, the water distribution system and the regional water system. The storm water utility is jointly managed by several divisions within Public Works including Water Resources.

The purpose of this newsletter is to keep our customers informed about utility services provided by the City. An informed public is a priceless asset in the ongoing task of protecting public facilities and local water resources.

This is the second year of the Water Resources Review. The printing and mailing costs were about $0.37 per copy. If you have any comments or questions regarding the newsletter, or any of the City's utilities, please call Jessica Shaw, Environmental Supervisor at 664-3387. We appreciate hearing from our customers.

WATER RESOURCES PROGRAMS

As part of the operation and maintenance of the City's utilities, the City is required to develop and implement programs that:

- Protect public health & safety
- Provide public education
- Ensure compliance with local, state & federal laws
- Protect utility structures & pipes
- Reduce pollution

Utility programs include water-use efficiency, cross connection control, wellhead protection, pretreatment, and storm water protection.

Each year City staff work with businesses, residents, schools, contractors, and government facilities providing technical assistance, conducting inspections, testing for water quality, and handing out educational materials.

Thank you to every one who has helped protect local water resources by installing and maintaining backflow preventers and pretreatment facilities such as grease traps and interceptors.

Your efforts help ensure that Wenatchee has safe water for homes, industry, recreation and wildlife.

Thank You!

Installation of a grease trap (gray box on the floor) and a reduced pressure backflow assembly under the counter at a new business in Wenatchee.

City of Wenatchee
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Working Together Through Education to Help Protect Water Resources in the Wenatchee Valley